Perspectives for tuna farming in Madeira archipielago

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Perspectives for tuna farming in Madeira archipelago

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SUMMARY – The archipelago of Madeira appears to present the physical, environmental and economic conditions to support the sustainable development of tuna farms. However, it is thought that feed for the fattening of tuna will have to be imported. A pilot project is necessary in order to evaluate and demonstrate technical and economic viability of this venture.

Key words: Tuna farming, tuna culture, bluefin, bigeye.

RESUME – *"Perspectives de l'élevage du thon dans l'archipel de Madère". L'archipel de Madère semble présenter les conditions physiques, environnementales et économiques permettant un développement durable des élevages de thons. Cependant il semblerait que l'on doive importer l'aliment pour l'engraissement du thon. Il est nécessaire de mettre en place un projet pilote pour évaluer et démontrer la faisabilité technique et économique de cette entreprise.*

Mots-clés : *Elevage du thon, culture du thon, thon rouge, thon obèse.*

Introduction

The archipelago of Madeira, situated in the North Eastern Atlantic, has a long tradition in tuna fishing using the pole and line method, a selective technique which catches mid size tuna from the surface (Carvalho *et al.*, 1983; Gouveia, 1986).

Since 1997 there has been a dramatic decrease of most tuna species landings with a significant increase in bluefin tuna *Thunnus thynnus* catches – BFT (Gouveia *et al.*, 2000).

Concerns about the status of the local fishery and the recent developments of BFT culture in the Mediterranean Sea have raised local interest in tuna farming.

Madeira's potential for tuna farming

Madeira presents suitable physical and environmental conditions for the development of tuna farms, namely: (i) clean open waters; (ii) seawater temperatures ranging from 17 to 24°C; (iii) although the ocean currents are weak, the steep seashore, strong spring tides and meteorological conditions concur for a good dispersal of wastes in fishfarms; and (iv) the south coast of Madeira island is more sheltered and adequate for the installation of sea cages (Andrade, 1996).

Tuna farming is dependent upon the availability of two main supplies: tuna fish and food. In Madeira the main tuna fishing grounds are located only a relatively short distance (within 40 miles) from the south coast (Gouveia *et al.*, 2000) and also the best farm sites. A significant number (about 6% of total catch) of the bluefin tuna caught locally are over 180 cm in length (Fig. 1) the size targeted by the Mediterranean fishfarms for growing on (Nuno Gouveia, pers. obs.).

However, low catches and limited stocks of small pelagic species limit their potential exploitation as a food source for the tuna under culture.

Madeira also possesses the technical and social-economical requirements for supporting this potential industry: (i) areas pre-selected for fishfarm installation; (ii) previous experience in offshore

fishfarming (of sparids); (iii) extensive services providing technical support to private fishfarms; and (iv) financial incentives through national and EU funding.

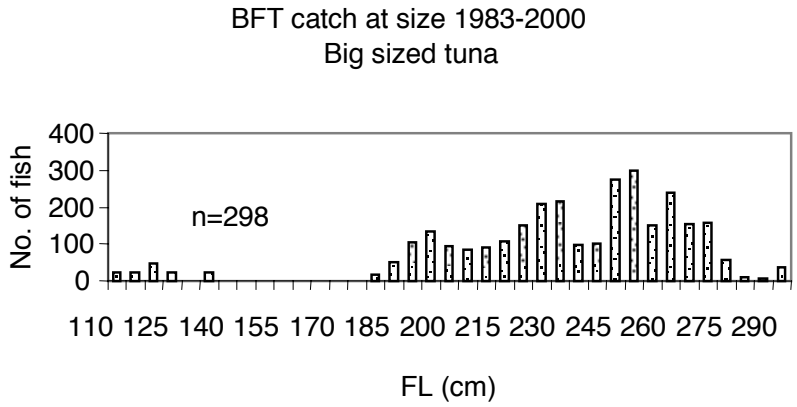

Fig. 1. Size composition of big sized bluefin tuna caught in Madeira archipelago.

Conclusions

The archipelago of Madeira presents many favourable conditions for establishing fishfarms to fatten tuna fish. However, such ventures would depend on the importation of food for the tuna. An experimental pilot project is necessary in order to evaluate the technical and economical potential for tuna farming in Madeira using BFT or other tuna species locally available (such as Big eye, *Thunnus obesus*).

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